on the left side was 33° C., on the other 34° C. This latter side showed no apparent diminution in muscular volume, but the dynamometer revealed considerable weakness.

The patient soon began to have difficulty in deglutition and phonation, with some pain in the pharynx, and a retropharyngeal abscess was found and evacuated. Eight days later the same procedure again became necessary. In his differential diagnosis, the author excludes torticollis, rheumatism, progressive muscular atrophy and syringomyelia, and believes the condition to be one of hypertrophic pachymeningitis, due to suboccipital spinal caries. The question of a metastatic process following the primary growth in the neck is not even alluded to. J. W. COURTNEY.

216. QUELQUES CONTRIBUTIONS A L'ÉTUDE DU SOMMEIL CHEZ LES SAINS D'ESPRIT ET CHEZ LES ALIÉNÉS (Sleep in the Sane and in the Insane). Pilcz (Annales medico-psychologique. Jan., 1899, p. 1).

During the past five years the author has been observing this condition, and concludes that the soundness of sleep for many of the insane is similar to that found in normal people, and that this soundness of sleep is closely correlated with dream states. The more profound the sleep, the less liability to dreams; in less profound sleep, the dreams take on the character of old associations and old ideas, whereas in light sleep, new impressions gain entrance into the mental processes and influence the character of the dream. The author holds that the delusions of the insane are rarely reproduced in their dreams. JELLIFFE.

217. UEBER HEREDITÄREN TREMOR (On Hereditary Tremor). Graupner (Deutsches Arch. f. klin. Med.; 64, 1899. Festschrift).

The history of a neuropathic family is here given. Three of six sisters were affected in middle life with a marked intention tremor; in one of these choreic movements of the facial musculature were also manifest. A daughter of one of these patients was affected from early childhood by a tremor of the upper extremities, and was subject to much muscular weakness on very slight exertion. The author suggests the relationship of the cases described by him to Huntington's chorea.

JELLIFFE.

218. A CASE OF BRAIN TUMOR AT THE BASE OF THE SECOND LEFT FRONTAL CONVOLUTION. H. C. Gordinier (Am. Journ. Med. Sciences, 117, 1899, p. 526).

Gordinier here presents a case of unusual interest, which seems to show that there exists at the base of the second left frontal convolution, for right-handed persons, a cortical center for writing analogous to the cortical center for motor speech. A like center for the other side probably exists. Destruction of this center produces pure motor agraphia without aphasia, and with no paralysis of the arm. The case should be consulted in the original. JELLIFFE.

THERAPY.

219. ON THE PHYSIOLOGICAL ACTION OF CHOLINE AND NEURINE. F. W. Mott and W. D. Halliburton (British Medical Journal, 1899, March).

The cerebro-spinal fluid removed from cases of brain atrophy, particularly from cases of general paralysis of the insane, produces when injected into the circulation of anesthetized animals a fall of arterial blood pressure, with little or no effect on respiration. This pathological fluid is richer in proteid matter than the normal fluid, and among the proteids, nucleo-proteid is present. The fall of blood pressure is, however, due not to proteid, nor to inorganic constituents, but to an organic substance which is soluble in alcohol. This substance is precipitable by phospho-tungstic acid, and by chemical methods was identified as choline.

The nucleo-proteid and choline doubtless originate from the disintegration of the brain tissue, and their presence indicates that possibly some of the symptoms of general paralysis may be due to auto-intoxication; these substances pass into the blood, for the cerebro-spinal fluid functions as the lymph of the central nervous system. The authors have identified choline in the blood removed by venesection from these patients during the convulsive seizures which form a prominent symptom in the disease.

Normal cerebro-spinal fluid does not contain nucleo-proteid or choline; or, if these substances are present, their amount is so small that they cannot be identified. Normal cerebro-spinal fluid produces no effect on arterial pressure; neither does the alcoholic extract of normal blood or of ordinary dropsical effusions.

The presence of choline in the pathological fluids will not explain the symptoms of general paralysis; for instance, it will not account for the fits just referred to. Its presence, however, is an indication that an acute disintegration of the cerebral tissues has occurred. If other poisonous substances are also present, they have still to be discovered.

Neurine, an alkaloid closely related to choline, is not present in the fluid; its toxic action is much more powerful, and its effects differ considerably from those of choline.

Physiological Action of Choline.

The fall of blood pressure caused by choline is in some measure due to its action on the heart, but is mainly produced by dilatation of the peripheral vessels, especially in the intestinal area. The action on the splanchnic vessels is due to the direct action of the base on the neuro-muscular mechanism of the blood vessels themselves; for after the influence of the central nervous system has been removed by section of the spinal cord, or of the splanchnic nerves, choline still causes the typical fall of blood pressure. The action of peripheral ganglia was in other experiments excluded by previous intravenous injection of a solution of nicotine. Section of the vagi produces no effect on the results of injecting choline. The effect of choline soon passes off, and the blood pressure returns to its previous level.

Physiological Action of Neurine.

The doses employed varied from 1 c.cm. of 0.1 per cent. solution. These were injected intravenously.

Neurine produces a fall of arterial pressure, followed by a marked rise, and a subsequent fall to the normal level. Sometimes, especially with small doses, the preliminary fall may be absent. Sometimes, especially with large doses, by which presumably the heart is more profoundly affected, the rise is absent. The effect of neurine on the heart of both frog and mammal is much more marked than is the case with choline; in the case of both choline and neurine, the action on the frog's heart is antagonized by atropine.

The slowing and weakening of the heart appear to account for the preliminary fall of blood pressure; in some cases this is apparently combined with a direct dilating influence on the peripheral vessels. The rise of blood pressure which occurs after the fall is due to the constriction of the peripheral vessels, evidence of which was obtained by the use of oncometers for intestine, spleen, and kidney. After the influence of the central nervous system has been removed by section of the spinal cord, or of the splanchnic nerves, neurine still produces its typical effects. After, however, the action of peripheral ganglia has been cut off by the use of nicotine, neurine produces only a fall of blood pressure. It therefore appears that the constriction of the vessels is due to the action of the drug on the ganglia; in this, it would agree with nicotine, coniine, and piperidine. Section of the vagi produces no influence on the results of injecting neurine. In animals anesthetized with morphine and atropine, injection of neurine causes only a rise of blood pressure, which is accompanied with constriction of peripheral vessels.

Neurine produces no direct results, so far as could be ascertained, on the cerebral blood vessels. Neurine is intensely toxic to nerve trunks (Dr. Waller and Miss Sowton). It produces a marked effect on the respiration. This is first greatly increased; but with each successive dose the effect is less, and ultimately the respiration becomes weaker and ceases altogether. The animal can still be kept alive by artificial respiration.

The exacerbation of respiratory movements will not account for the rise of arterial pressure; the two events are usually not synchronous, and an intense rise of arterial pressure—due, as previously stated, to contraction of peripheral blood vessels—may occur when there is little or no increase of respiratory activity, or during artificial respiration.

As confirmatory of Cervello's statement that neurine acts like curare on the nerve endings of voluntary muscle, and to which he attributes the cessation of respiration, it may be mentioned that after an animal has been poisoned with neurine, asphyxiation causes little or none of the usual convulsions.

It should be mentioned that in the case of brain atrophy referred to the cerebro-spinal fluid was removed soon after death. Since then the authors have had the opportunity of examining two specimens removed during life by lumbar puncture, and the results corroborate the conclusions previously arrived at. PATRICK.

220. ON THE TREATMENT OF ABDOMINAL PALPITATIONS. Sir Willoughby Wade (British Medical Journal, No. 2007; June 17th, 1899, p. 1451).

This well known disorder, most common in women, but not infrequent in men, is in all cases unpleasant, often distressing, and in some instances painful, so much so that patients are most grateful for relief. Palpation of the abdomen during an attack, and often in the intervals, reveals an abnormally forcible pulsation of the abdominal aorta. From theoretical and practical considerations, it seemed to the author that the cause was to be found in a state of high arterial tension, and he considered that nitroglycerine would be the logical remedy. He says that his surmise proved to be correct on trial, but he has apparently tried it in but few cases. He administers one two-hundredth of a grain every night and finds that although the supposedly increased tension in the abdominal aorta is diminished, the pulse at the wrist is at once rendered more full and forcible.

Several cases are adduced in support of the treatment, but they appear to the reviewer to fall somewhat short of constituting invulnerable evidence. PATRICK.